



Multiple-Stage Switches: **Vertical Mount**

**Innovative
Solutions**



L312E Series Custom Switches for Hazardous Locations Lengths to 4'

The L312E series level switches are custom designed, top mounted liquid level switches for hazardous locations in lengths to four feet (1.2m).

Approvals:

UL (Underwriters Laboratories)

CUL (Canadian Underwriters Laboratories)

FM-EP (Factory Mutual) Class I, Div 1 Grps A, B, C & D
Class II, Grps E, F, & G
Class III, T4

Important: The L312E must be installed and maintained in accordance with the National Electrical Code (NEC) and all standards and procedures governing the proper installation and use in explosion-proof atmospheres.



L312E

Product Configuration Choices:

Mounting & Materials: Select mounting size, mount and stem material, float material, switch type, and optional enclosure from **Table A**.

Float Size: Select float from **Table B**.

Switch Wiring: Select switch wiring from **Table C**.

Actuation Levels: Select switch actuation level(s) from **Table D**.

A. Component Choices L312:

Series	Mounting* Types	Mounting & Stem Materials	Float Materials	Switch Types	Enclosures*	
L312E	05	3/4" NPT	08 316/316L SS	08 316 SS	55 50VA SPST w/Terminal strip	00 No enclosure
	06	1" NPT	10 Hastelloy®	16 Teflon (spring loaded)	56 100VA SPST w/Terminal strip	01 Aluminum, 1/2" NPT conduit
	07	1 1/4" NPT			57 3VA SPDT w/Terminal strip	02 Small Cast 3/4" NPT conduit
	08	1 1/2" NPT				03 Large Cast 1/2" NPT conduit
	09	2" NPT				
	10	3" NPT				
	63	2" Sanitary Flange				
	65	3" Sanitary Flange				
	73	2" 150# ANSI Flange				
	75	3" 150# ANSI Flange				

Example: L312E-0508-0855-00 = 3/4" NPT mounting; 316/316L SS mounting & stem material; 316 SS float; 50VA SPST w/terminal strip switches; no enclosure

*Other mountings and enclosures are available. Consult factory for details.



Multiple-Stage Switches: **Vertical Mount**

**Innovative
Solutions**



L312E Series Custom Switches for Hazardous Locations Lengths to 4'

B. Float Sizes and Operating Specifications

Float Materials	Dimensions	Available Mount (for External Mounting)	Temperature	Maximum Float Pressure	Minimum Specific Gravity
316 stainless steel	0.825" x 1.6" (standard)	06 and up	-40° to +300° F	150 psig	.80
316 stainless steel	0.825" x 1.6" (high pressure)	06 and up	-40° to +300° F	400 psig	1.1
316 stainless steel	1" x 1"	06 and up	-40° to +300° F	300 psig	.95
316 stainless steel	1.5" x 1"	09, 10, 63, 65, 73, 75	-40° to +300° F	100 psig	.70
316 stainless steel	1" ball	06 and up	-40° to +300° F	600 psig	.90
Teflon*	0.9" x 1.1"	06 and up	-40° to +300° F	1000 psig	.60*

*Solid Teflon float supported by stainless steel spring.

C. Switch Wiring and Electrical Specifications

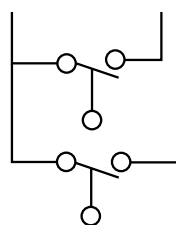
Each switching point requires one float. For special applications, a single float can be used to activate two switch points, though these points must have a minimum separation of 1/8" (3mm). The maximum number of actuation levels depends on the wiring type selected.

Ratings: 100 VA @ 240 VAC SPST
50 VA @ 240 VAC SPST
3 VA @ 30 VAC/VDC SPDT

Connection: 24" Free Leads
#22 AWG, TFE, Teflon only

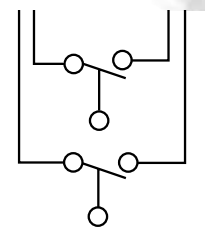
Mounting Attitude: Vertical ± 30°

Group 1 SPST
One Common Wire



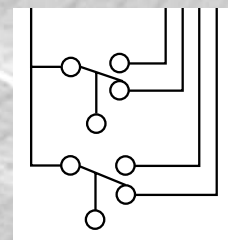
1 to 5 switch points

Group 2 SPST
Independent Circuits



1 to 3 switch points

Group 3 SPDT
One Common Wire



1 or 2 switch points

Switch Wiring Code

Wiring Options	Group 1 SPST	Group 2 SPST	Group 3 SPDT
Common Wire	Black	None	Black
	NO or NC	NO or NC	NO/NC
L1	Red	Red/Red	Red/White-Red
L2	Yellow	Yellow/Yellow	Yellow/White-Yellow
L3	Blue	Blue/Blue	
L4	Brown		
L5	Orange		

Notes: "White-Red" and "White-Yellow" denote single white wire with red or yellow stripes.



Multiple-Stage Switches: **Vertical Mount**

Innovative Solutions



L312E Series Custom Switches for Hazardous Locations Lengths to 4'

D. Actuation Level Dimensions

A = Minimum distance from actuation point to bottom of mounting.

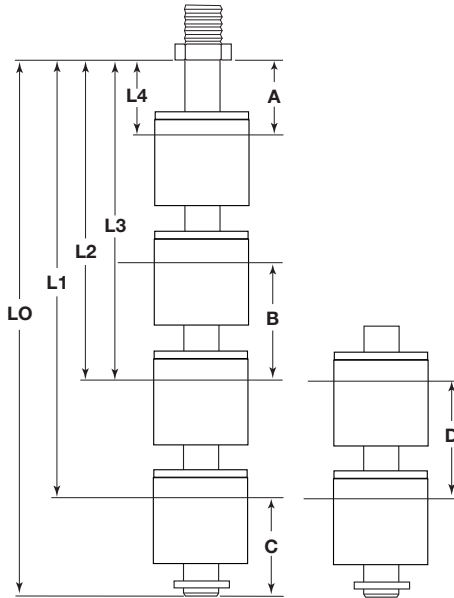
B = Minimum distance between actuation levels.

C = Minimum distance from end of unit to lowest actuation point.

D = Minimum distance between actuation points when a single float is used to actuate two switches.

Notes:

1. A, B, and C dimensions are based on a specific gravity of 1.0.
2. When using one float for two actuation positions, contact the factory for available switch ratings.
3. Actuation levels are calibrated on descending fluid level, with water as the fluid, unless otherwise specified.
4. Standard tolerance on actuation levels is $\pm 1/8"$ (3mm).



Dimensions				
Float Type	A	B	C	D
1" x 1"	1"	1 3/4"	1"	1/8"
1.5" x 1"	1"	1 3/4"	1"	1/8"
1" ball	1"	1 3/4"	1"	1/8"
.9 x 1.5"	1"	2 1/2"	1 1/2"	1/8"